

Safe Methods of Use 12: HSNO Class 5.1 Oxidising Compounds

Purpose: This applies to **principal investigators (PIs)**, **sector managers**, **designated laboratory person (DLPs)**, technical staff and students who use laboratories within the University of Auckland.

Note: 'Shall' denotes a mandatory requirement and 'should' denotes a recommendation.

A. Incompatibilities

1. HSNO Class 5.1 compounds **shall NOT** be stored with HSNO Class 3 Flammable Liquids, HSNO Class 4 Reactive Solids or HSNO Class 5.2 Organic Peroxides.
2. Store well away from any combustible organic compound - preferably in a metal cabinet. Strong oxidisers such as metal peroxides, perchlorates and nitrates react violently with combustible organic compounds such as alcohols, aldehydes, ethers, and hydrocarbons.

B. Storage

1. HSNO Class 5.1 compounds **shall NOT** be stored with HSNO Class 3 Flammable Liquids, HSNO Class 4 Reactive Solids or HSNO Class 5.2 Organic Peroxides.
2. Store separately from any combustible organic compound - preferably store UN Class 5.1 compounds in a separate metal cabinet. Strong oxidisers such as metal peroxides, perchlorates and nitrates react violently with combustible organic compounds such as alcohols, aldehydes, ethers, and hydrocarbons.
3. Segregation may also be provided for single containers by storage inside a segregation device (such as a sealable plastic box).

C. Use

1. Ensure that these compounds are used well away from low flash point solvent or any fine ground organic compound.
2. These compounds often have a strong corrosive action and **shall** be used in a fume hood.

3. Safety Glasses **shall** be worn when handling these compounds
4. Perchloric acid digestions **shall** be conducted only in fume hoods which have ducting certified for work with perchlorates.
5. Care should be taken when using strong oxidising agents such as metal peroxides, perchlorates and nitrates and concentrated nitric acid as these compounds can react violently with combustible organic compounds.

D. Disposal

1. Disposal of UN Class 5.1 compounds **shall** be undertaken by a licensed chemical waste contractor.
2. Please contact Hazards and Containment Manager to arrange for disposal.
3. HSNO Class 5.1 compounds **shall** be packed separately for disposal.

E. Spills

1. Consult MSDS for correct clean up procedure
2. Use correct gloves
3. If liquid, use absorbent material in spill kits to wipe up – wiping from outside of spill toward centre.
4. Place used absorbent material in impermeable/airtight container
5. Solids can be placed directly impermeable/airtight container
6. Inform Laboratory Manager and arrange for immediate disposal

